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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/510,652	02/22/2000	Ralf Bohnke	450117-02428	1553
20999	7590	04/11/2005	EXAMINER	
FROMMER LAWRENCE & HAUG 745 FIFTH AVENUE- 10TH FL. NEW YORK, NY 10151			DEPPE, BETSY LEE	
			ART UNIT	PAPER NUMBER
			2637	

DATE MAILED: 04/11/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/510,652

Applicant(s)

BOHNKE ET AL.

Examiner

Betsy L. Deppe

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 December 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 27-48 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 27-29, 32, 34-40, 43 and 45-48 is/are rejected.
- 7) ☒ Claim(s) 30, 31, 33, 41, 42, and 44 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on Dec. 3, 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|-----------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

1. The drawings were received on December 3, 2004. These drawings are acceptable.

Specification

2. The following guidelines illustrate the preferred layout for the specification of a utility application. These guidelines are suggested for the applicant's use.

Arrangement of the Specification

As provided in 37 CFR 1.77(b), the specification of a utility application should include the following sections in order. Each of the lettered items should appear in upper case, without underlining or bold type, as a section heading. If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:

- (a) TITLE OF THE INVENTION.
- (b) CROSS-REFERENCE TO RELATED APPLICATIONS.
- (c) STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT.
- (d) THE NAMES OF THE PARTIES TO A JOINT RESEARCH AGREEMENT
- (e) INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A COMPACT DISC (See 37 CFR 1.52(e)(5) and MPEP 608.05. Computer program listings (37 CFR 1.96(c)), "Sequence Listings" (37 CFR 1.821(c)), and tables having more than 50 pages of text are permitted to be submitted on compact discs.) or
REFERENCE TO A "MICROFICHE APPENDIX" (See MPEP § 608.05(a). "Microfiche Appendices" were accepted by the Office until March 1, 2001.)
- (f) BACKGROUND OF THE INVENTION.
 - (1) Field of the Invention.
 - (2) Description of Related Art including information disclosed under 37 CFR 1.97 and 1.98.
- (g) BRIEF SUMMARY OF THE INVENTION.
- (h) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).
- (i) DETAILED DESCRIPTION OF THE INVENTION.
- (j) CLAIM OR CLAIMS (commencing on a separate sheet).
- (k) ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet).

(I) SEQUENCE LISTING (See MPEP § 2424 and 37 CFR 1.821-1.825. A "Sequence Listing" is required on paper if the application discloses a nucleotide or amino acid sequence as defined in 37 CFR 1.821(a) and if the required "Sequence Listing" is not submitted as an electronic document on compact disc).

3. The disclosure is objected to because of the following informalities:

it does not include section headings according to the preferred layout of the specification;

page 6 refers to cancelled claims. The Examiner suggests that claim numbers are not used in the detailed description in order to avoid confusion in the event that the claims renumbered upon allowance/issue;

on page 16, line 16, it appears that "e.g." should be deleted

Appropriate correction is required.

Claim Objections

4. The claims are objected to because of the following informalities:

in claim 27, line 1, "Receiving" should be "A receiving";

on lines 1 of claims 28-37, "Receiving" should be "The receiving";

in claims 27-37, the introduction of a means limitation should be preceded by "a".

For example, in claim 27, line 3, "receiving means" should be "a receiving means" and

in claim 27, line 8, "correlation means" should be "a correlation means."

in claim 28, line 2, "aid" should be "said";

Appropriate correction is required.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

6. Claims 34-37 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The specification does not describe providing either the output signal of the correlation means or of the detection means to a peak threshold detection means and a gap detection means (see claims 34-37) wherein the synchronizing means includes a correlation means and a detection means (see claim 27, lines 8-10). Figure 13 shows that the peak threshold detection means (29) and the gap detection means (30-32) receives a value of $|z(i)|$. Figures 7 and 9 show a correlation circuit and detection circuit wherein the detection circuit provides $|z(i)|$. According to Figure 11, a correlation circuit provides $|z(i)|$. Based on the Examiner's understanding, it appears that any of the circuits shown in Figures 7, 9 or 11 may be used to provide $|z(i)|$ to the circuit of Figure 13. However, it appears that if the embodiment in Figure 11 is used, then a detection circuit (as recited in claim 27) is not necessary.

Since claim 27 recites a synchronizing means comprised of a correlation means and a detection means, it appears that claim 27 corresponds to the embodiments shown in Figure 7 or 9. The description corresponding to these embodiments do not

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describe providing the output of the correlation means to peak threshold detection means (29) and the gap detection means (30-32). I.e. the detailed disclosure does not describe how the peak threshold detection means (29) and the gap detection means (30-32) would process the output of the correlation means $r(i)$. Therefore, one skilled in the art would not be enabled to make and/or use the claimed invention.

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claims 45-48 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

9. Claims 45-48 recite the limitation "said detection step" in the respective claims. There is insufficient antecedent basis for this limitation in the claim 38. Although claim 38 recites "using the phase-shifted information . . . to detect," it does not explicitly recite a detecting step.

Claim Rejections - 35 USC § 102

10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

11. Claims 27, 28, 38 and 39 are rejected under 35 U.S.C. 102(b) as being anticipated by Ballarin et al. (EP 0 702 467 A1, cited in the IDS filed February 22, 2000, Paper No. 4). Ballarin et al. discloses a receiving means and a synchronising means comprising a cross correlation means (30A) and a detection means (18) wherein there is a plurality of successive repetitive patterns (AB and CD) whereby the last repetitive pattern (CD) is phase-shifted in relation to the other repetitive patterns (AB). (See Figures 1, 2 and 4; page 2, lines 2-13; and page 3, lines 3-24 and 29-51)

12. Claims 27-29 and 38-40 are rejected under 35 U.S.C. 102(e) as being anticipated by Dölle et al. (US Patent No. 6,160,821 cited in the Office Action mailed April 17, 2003).

13. With regard to claims 27, 28, 38 and 39, the abstract and Figure 4 of Dölle et al. disclose the claimed invention including a receiving means and a synchronizing means (18) comprised of a correlation means (30-36) and a detection means (20) wherein the phase-shifted repetition pattern is phase-shifted by 180° in relation to the other repetition patterns.

14. With regard to claims 29 and 40, Figure 4 of Dölle et al. disclose the claimed invention including a correlation window length corresponding to the length of one

repetition pattern. (See 30 in Figure 40) Furthermore, the output of the correlation means is supplied to detection means 20.

Claim Rejections - 35 USC § 103

15. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

16. Claims 29, 32, 40 and 43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ballarin et al.

17. With regard to claims 29 and 40, Ballarin et al. discloses the claimed invention except for a correlation length corresponding to the length of one repetition pattern. Since Ballarin et al. discloses that the reference sequence may be short to restrict the necessary hardware (see page 3, lines 52-53), it would have been obvious to one of ordinary skill in the art at the time the invention was made to use a window length of one repetition pattern in order to achieve get more precise synchronization while conserving hardware.

18. With regard to claims 32 and 43, Ballarin et al. discloses the claimed invention except for a cross correlation window length corresponding to the length of two repetition patterns. Since Ballarin et al. discloses that the reference sequence may be short to restrict the necessary hardware (see page 3, lines 52-53), it would have been obvious to one of ordinary skill in the art at the time the invention was made to use a

window length of two repetition patterns in order to achieve get more precise synchronization while conserving hardware.

19. Claims 32 and 43 are rejected under 35 U.S.C. 103(a) as being obvious over Dölle et al. in view of Ballarin et al. (US Patent No. 6,009,125 cited in the Office Action mailed April 17, 2003).

The applied reference has a common inventor with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art only under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 103(a) might be overcome by: (1) a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not an invention "by another"; (2) a showing of a date of invention for the claimed subject matter of the application which corresponds to subject matter disclosed but not claimed in the reference, prior to the effective U.S. filing date of the reference under 37 CFR 1.131; or (3) an oath or declaration under 37 CFR 1.130 stating that the application and reference are currently owned by the same party and that the inventor named in the application is the prior inventor under 35 U.S.C. 104, together with a terminal disclaimer in accordance with 37 CFR 1.321(c). This rejection might also be overcome by showing that the reference is disqualified under 35 U.S.C. 103(c) as prior art in a rejection under 35 U.S.C. 103(a). See MPEP § 706.02(I)(1) and § 706.02(I)(2).

Dölle et al. discloses the claimed invention except for a correlation window length corresponding to the length of two repetition patterns. Ballarin et al. teaches that the

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length of the correlation window may be varied based on hardware requirements. (See column 4, lines 10-17) It would have been obvious to one of ordinary skill in the art at the time the invention was made to increase the correlation window length in Dölle et al. based on the hardware requirements and the desired accuracy for detecting maximum peak correlation.

Allowable Subject Matter

20. Claims 30, 31, 33, 41, 42, and 44 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

21. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Betsy L. Deppe whose telephone number is (571) 272-3054. The examiner can normally be reached on Monday, Wednesday and Thursday (8:30-4:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jay Patel can be reached on (571) 272 - 2988. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Betsy L. Deppe
Primary Examiner
Art Unit 2637